

**Notice of Allowability**

Application No.

09/586,072

Examiner

Qi Han

Applicant(s)

EDLER ET AL.

Art Unit

2654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to appeal brief filed on 09/21/2005.
2. ☒ The allowed claim(s) is/are 1-33.
3. ☒ The drawings filed on 27 June 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)           |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                   |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|   | 9. <input type="checkbox"/> Other _____   |

## **DETAILED ACTION**

### ***Response to Amendment***

1. This communication is responsive to the applicant's appeal brief filed on 09/21/2005.

### ***Response to Arguments***

2. By reviewing the specification and reconsidering the applicant's argument in the appeal brief, the examiner withdraws the finality of the office action filed on 03/28/2005, because the applicant clarified some amended limitation(s) (see the Brief: pages 6-8), and agreed to cancel dependent claim 7 and to amend the independent claims for further clarifying the claimed invention (see the examiner's amendment below).

### ***Examiner's Amendment***

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Kevin M. Mason on 10/28/2005. The application has been amended as follows:

**In the specification (refer to the marked up specification in the amendment filed on 07/07/2003):**

On page 7, line 24, after "an inverse of a corresponding visibility threshold", delete ", as would be apparent to a person of ordinary skill in the art".

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**In the claim (refer to the amendment filed on 10/29/2004):**

**claim 1**, see page 2, line 2 of the claim, after “using an adaptive filter”, insert --  
having a plurality of subbands-- ;

line 6 of the claim, after “wherein”, delete “the”.

**claim 13**, see page 3, line 2 of the claim, after “using an adaptive filter”, insert --  
having a plurality of subbands-- ;

line 8 of the claim, after “wherein”, delete “the”.

**claim 20**, see page 4, line 4 of the claim, after “with an adaptive filter”, insert --  
having a plurality of subbands-- ;

line 6 of the claim, after “wherein”, delete “the”.

**claim 25**, see page 5, line 6 of the claim, after “using an adaptive filter”, insert --  
having a plurality of subbands-- ;

line 8 of the claim, after “wherein”, delete “the”.

**claim 30**, see page 6, line 2 of the claim, after “an adaptive filter”, insert --having  
a plurality of subbands-- ;

line 6 of the claim, after “wherein”, delete “the”.

**claim 31**, see page 6, line 2 of the claim, after “an adaptive filter”, insert --having  
a plurality of subbands-- ;

line 8 of the claim, after “wherein”, delete “the”.

**claim 32**, see page 6, line 4 of the claim, after “an adaptive filter”, insert --having  
a plurality of subbands-- ;

line 6 of the claim, after “wherein”, delete “the”.

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**claim 33**, see page 7, line 6 of the claim, after “an adaptive filter”, insert --having a plurality of subbands-- ;

line 8 of the claim, after “wherein”, delete “the”.

**-----End of Examiner's Amendment-----**

*Allowable Subject Matter*

4. Claims 1-33 are allowed.

The following is an examiner's statement of reasons for allowance:

Regarding independent **claims 1, 13, 20, 25 and 30-33**, the instant application is directed to a method and an apparatus for encoding/decoding an audio signal. Each independent claim, combining some well-known features in the art, identifies the uniquely distinct features of:

filtering input signal (audio signal) using an adaptive filter having a plurality of subbands controlled by a psycho-acoustic model, the adaptive filter having a magnitude response that approximates an inverse of the masking threshold; and quantizing and encoding the filter output signal together with side information for filter adaptation control, wherein spectral and temporal resolutions of one or more subbands utilized in the encoding are selected independent of the adaptive filter (claims 1, 13, 30-31, for encoding); or

decoding and dequantizing a signal (encoded audio signal), decoding side information (corresponding to the side information at the encoder side) for filter adaptation control transmitted with the signal, and filtering the dequantized signal with an adaptive filter having a plurality of subbands controlled by the side information, the

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adaptive filter having a magnitude response that approximates a masking threshold, wherein spectral and temporal resolutions of one or more subbands utilized in the decoding are selected independent of the adaptive filter (claims 20, 25, 32-33, for decoding).

5. The prior art of record, Srinivasan et al. (IEEE Transaction on signal processing, vol. 46, April 1998), Smith (ISBN 0-9660176-33, 19977) and Tsurushima et al. (US 2001/0047256 A1) and Johnston (US 5,481,614), provided numerous teachings of alternative audio coding/decoding techniques with different features, functions and structures, including using adaptive filter and psycho-acoustic model, filter bank (subbands), deconvolution filter having inversed response part of another signal, Bark spectrum for masking, perceptual model for providing improved control of the filter operations. However, the combined features as whole, as stated above, are not anticipated by, nor made obvious over the prior art of the record.

6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

7. Please address mail to be delivered by the United States Postal Service (USPS) as follows:

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**Or:** 571-273-8300, (for informal or draft communications, and please label "PROPOSED" or "DRAFT")

If no Mail Stop is indicated below, the line beginning Mail Stop should be omitted from the address.

Effective January 14, 2005, except correspondence for Maintenance Fee payments, Deposit Account Replenishments (see 1.25(c)(4)), and Licensing and Review (see 37 CFR 5.1(c) and 5.2(c)), please address correspondence to be delivered by other delivery services (Federal Express (Fed Ex), UPS, DHL, Laser, Action, Purolater, etc.) as follows:

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Qi Han whose telephone numbers is (571) 272-7604. The examiner can normally be reached on Monday through Thursday from 9:00 a.m. to 7:00 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil, can be reached on (571) 272-7602.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Inquiries regarding the status of submissions relating to an application or questions on the Private PAIR system should be directed to the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028 between the hours of 6 a.m. and midnight Monday through Friday EST, or by e-mail at: [ebc@uspto.gov](mailto:ebc@uspto.gov). For general information about the PAIR system, see <http://pair-direct.uspto.gov>.

QH/qh  
October 28, 2005

  
RICHEMOND DORVIL  
SUPERVISORY PATENT EXAMINER